

Remarks

Reconsideration of this application as amended is respectfully requested.

Claims 1, 3, 4, 6, 12-15, 17, 18, and 20 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 4,008,564 of *Luce et al.* ("*Luce*") and U.S. Patent Application Publication No. US 2001/0035577 of *Akram* ("*Akram*").

Claims 1, 4, 12, and 13 stand rejected under 35 U.S.C. §103(a) as being unpatentable in view of *Luce* and U.S. Patent Application Publication No. US 2002/0191377 of *Osada et al.* ("*Osada*").

Claim 6 stands rejected under 35 U.S.C. §103(a) as being unpatentable in view of *Luce* and U.S. Patent Application Publication No. US 2002/0185720 of *Khan et al.* ("*Khan*").

Claims 14 and 17 stands rejected under 35 U.S.C. §103(a) as being unpatentable in view of *Luce* and U.S. Patent Application Publication No. US 2002/0186618 of *Kirkpatrick* ("*Kirkpatrick*").

Claim 18 stands rejected under 35 U.S.C. §103(a) as being unpatentable in view of *Luce* and *Osada*.

Claim 20 stands rejected under 35 U.S.C. §103(a) as being unpatentable in view of *Luce* and *Khan*.

The examiner has rejected claims 1, 3, 4, 6, 12-15, 17, 18, and 20 under 35 U.S.C. §103(a) as being unpatentable over *Luce* and *Akram*. Applicant respectfully submits that amended claim 1 is not obvious in view of *Luce* and *Akram* because *Luce* and *Akram* do not disclose or suggest a structure that surrounds an enclosure of an electronic component and that increases a thermal mass of the electronic component as claimed in amended claim 1.

*Luce* discloses a potting material 46 on an enclosure, a can 40, of a device 32 that shields the

device 32 from the atmosphere (*Luce*, col. 4, lines 31-56) rather than a structure that surrounds an enclosure of an electronic component and that increases a thermal mass of the electronic component as claimed in amended claim 1. Moreover, *Luce* does not teach or suggest that the potting material 46 or the can 40 increase the thermal mass of the device 32. Instead, *Luce* teaches that the can 40 and the potting material 46 seal the device 32 from the atmosphere (*Luce*, col. 4, lines 31-32) and that the potting material 46 facilitates the attachment of a wrist band (*Luce*, col. 4, lines 57-60). It is further submitted that the can 40 and the potting material 46 of *Luce* do not increase the thermal mass of the device 32 because the can 40 and the potting material 46 are thermally isolated from the device 32. For example, the can 40 is isolated from a substrate 10 that holds the device 32 by an insulator 42 (*Luce*, Fig. 2 and col. 4, lines 36-41) and is separated from a support plate 30 of the device 32 by a spring mechanism 44 which is used to facilitate assembly (*Luce*, Fig. 2 and col. 4, lines 45-48).

*Akram* discloses a heat block 26 positioned beneath and adjacent to an integrated circuit die 32 (Figure 2 of *Akram*) and an encapsulant 42 that protects the exposed portions of the die 32 from mechanical stress and moisture (*Akram*, paragraph 0033) rather than a structure that surrounds an enclosure of an electronic component and that increases a thermal mass of the electronic component as claimed in amended claim 1.

Given that claims 3, 4, 6, and 12-14 depend from amended claim 1, it is submitted that claims 3, 4, 6, and 12-14 are not obvious in view of *Luce* and *Akram*.

It is also submitted that amended claim 15 is not obvious in view of *Luce* and *Akram*. Amended claim 15 includes limitations similar to the limitations of amended claim 1 including a structure that surrounds an

enclosure of a component and that increases a thermal mass of the component. Therefore, the remarks stated above with respect to amended claim 1 and *Luce* and *Akram* also apply to amended claim 15.

Given that claims 15, 17, 18, and 20 depend from amended claim 15, it is submitted that claims 15, 17, 18, and 20 are not obvious in view of *Luce* and *Akram*.

The examiner has rejected claims 1, 4, 12, and 13 under 35 U.S.C. §103(a) as being unpatentable over *Luce* and *Osada*. Applicant respectfully submits that amended claim 1 is not obvious in view of *Luce* and *Osada* because *Luce* and *Osada* do not disclose or suggest a structure that surrounds an enclosure of an electronic component and that increases a thermal mass of the electronic component as claimed in amended claim 1.

*Luce* discloses a potting material 46 on an enclosure, a can 40, of a device 32 that shields the device 32 from the atmosphere (*Luce*, col. 4, lines 31-56) rather than a structure that surrounds an enclosure of an electronic component and that increases a thermal mass of the electronic component as claimed in amended claim 1. *Osada* discloses a heat dissipation substrate 13 placed beneath an enclosure, a ceramic package 11, of a semiconductor chip 15 (*Osada*, Figure 1) rather than a structure that surrounds an enclosure of an electronic component as claimed in amended claim 1. Figure 1 of *Osada* clearly shows that the heat dissipation substrate 13 is positioned below the ceramic package 11 rather than surround the enclosure as claimed in amended claim 1.

Given that claims 4, 12, and 13 depend from amended claim 1, it is submitted that claims 4, 12, and 13 are not obvious in view of *Luce* and *Osada*.

It is also submitted that amended claim 6 is not obvious in view of *Luce* and *Khan*. Amended claim 6 depends from amended claim 1 and *Luce* and *Khan* do not disclose or

suggest a structure that surrounds an enclosure of an electronic component and that increases a thermal mass of the electronic component as claimed in amended claim 1. *Luce* discloses a potting material 46 that shields a device 32 from the atmosphere (*Luce*, col. 4, lines 31-56) rather than a structure that surrounds an enclosure of an electronic component and that increases a thermal mass of the electronic component as claimed in amended claim 1. *Khan* discloses an epoxy 116 that surrounds and integrated circuit die 102 for mechanical and environmental protection (*Khan*, Figure 1A and paragraph 0062) rather than a structure that surrounds an enclosure of an electronic component and that increases a thermal mass of the electronic component as claimed in amended claim 1.

Applicant submits that claim 14 is not obvious in view of *Luce* and *Kirkpatrick*. Claim 14 depends from amended claim 1 and *Luce* and *Kirkpatrick* do not disclose or suggest a structure that surrounds an enclosure of an electronic component and that increases a thermal mass of the electronic component as claimed in amended claim 1. *Luce* discloses a potting material 46 that shields a device 32 from the atmosphere (*Luce*, col. 4, lines 31-56) rather than a structure that surrounds an enclosure of an electronic component and that increases a thermal mass of the electronic component as claimed in amended claim 1. *Kirkpatrick* discloses an alarm clock (See Abstract of *Kirkpatrick*) rather than a structure that surrounds an enclosure of an electronic component and that increases a thermal mass of the electronic component as claimed in amended claim 1.

Applicant submits that that amended claim 17 is not obvious in view of *Luce* and *Kirkpatrick*. Amended claim 17 depends from amended claim 15 and *Luce* and *Kirkpatrick* do not disclose or suggest a structure that surrounds an enclosure of a crystal component and that increases a

thermal mass of the crystal component as claimed in amended claim 15. *Luce* discloses a potting material 46 that shields a device 32 from the atmosphere (*Luce*, col. 4, lines 31-56) rather than a structure that surrounds an enclosure of a crystal component and that increases a thermal mass of the crystal component as claimed in amended claim 15. *Kirkpatrick* discloses an alarm clock (See Abstract of *Kirkpatrick*) rather than a structure that surrounds an enclosure of a crystal component and that increases a thermal mass of the crystal component as claimed in amended claim 15.

Applicant submits that that amended claim 18 is not obvious in view of *Luce* and *Osada*. Amended claim 18 depends from amended claim 15 and *Luce* and *Osada* do not disclose or suggest a structure that surrounds an enclosure of a crystal component and that increases a thermal mass of the crystal component as claimed in amended claim 15. *Luce* discloses a potting material 46 that shields a device 32 from the atmosphere (*Luce*, col. 4, lines 31-56) rather than a structure that surrounds an enclosure of a crystal component and that increases a thermal mass of the crystal component as claimed in amended claim 15. *Osada* discloses a heat dissipation substrate 13 placed beneath an enclosure of a semiconductor chip 15 (*Osada*, Figure 1) rather than a structure that surrounds an enclosure of a crystal component and that increases a thermal mass of the crystal component as claimed in amended claim 15.

Applicant submits that that amended claim 20 is not obvious in view of *Luce* and *Khan*. Amended claim 20 depends from amended claim 15 and *Luce* and *Khan* do not disclose or suggest a structure that surrounds an enclosure of a crystal component and that increases a thermal mass of the crystal component as claimed in amended claim 15. *Luce* discloses a potting material 46

that shields a device 32 from the atmosphere (Luce, col. 4, lines 31-56) rather than a structure that surrounds an enclosure of a crystal component and that increases a thermal mass of the crystal component as claimed in amended claim 15. Khan discloses an epoxy 116 that surrounds and integrated circuit die 102 for mechanical and environmental protection (Khan, Figure 1A and paragraph 0062) rather than a structure that surrounds an enclosure of a crystal component and that increases a thermal mass of the crystal component as claimed in amended claim 15.

It is respectfully submitted that in view of the amendments and arguments set forth above, the applicable objections and rejections have been overcome.

The Commissioner is authorized to charge any underpayment or credit any overpayment to Deposit Account No. 50-1078 for any matter in connection with this response, including any fee for extension of time, which may be required.

Respectfully submitted,

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